

REMARKS

Claims 1-11 are pending in the present application. Claims 1 and 7 are herein amended.
No new matter has been presented.

Rejections under 35 USC §112, First Paragraph

Claims 1-11 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The Examiner alleged as follows:

Claims 1 and 7 require controlling the air pressure “higher than atmospheric pressure,” which is not supported by the specification. The specification provides support for controlling the pressure by increasing or decreasing the pressure, but the specification does not explicitly disclose that the pressure is higher than atmospheric pressure. It is recommended removing the requirement of the pressure to be greater than atmospheric pressure.

(Office Action, page 2, lines 14-19).

Accordingly, claims 1 and 7 have been amended to delete “higher than an atmospheric pressure.” Thus, the rejection has been overcome.

Rejections under 35 USC §103(a)

Claims 1-4 and 6-11 were rejected under 35 U.S.C. 103(a) as being obvious over Swiggett et al. (U.S. Patent No. 4,693,778, herein “Swiggett”) in view of Berndt (U.S. Patent No. 6,582,519) and either one of Keyworth et al. (U.S. Patent No. 5,534,101 herein “Keyworth”) or Ikushima (U.S. Patent No. 6,527,142).

Claim 5 was rejected under 35 U.S.C. 103(a) as being obvious over Swiggett, Berndt, either one of Keyworth or Ikushima, and further in view of Hawkins (U.S. Patent No. 3,742,107), herein “Hawkins”.

The Examiner alleged as follows:

Swiggett discloses a method and apparatus for applying conductor wiring to a substrate. The method comprises feeding an optical fiber through a nozzle (78) onto a substrate. The optical fiber is coated with an adhesive layer (32), however Swiggett does not disclose coating the optical fiber with an adhesive while passing the fiber through the nozzle, and Swiggett is silent as to keeping the amount of adhesive constant by controlling the pressure higher than atmospheric pressure.

Berndt discloses a method of coating an adhesive material onto an optical fiber. The method comprises passing the optical fiber (3) through a nozzle (7) with an inner diameter larger than the outer diameter of the optical fiber, and simultaneously ejecting the optical fiber with an adhesive coating thereon from the nozzle.

Keyworth discloses a method and apparatus for forming a waveguide on a substrate. The method comprises feeding a UV curable liquid from a nozzle onto a substrate, relatively moving the nozzle and the substrate and curing the UV curable liquid (column 4, lines 1-21). Keyworth discloses controlling the amount of air pressure greater than atmospheric pressure to the surface of the adhesive held in the nozzle to force the adhesive out of the nozzle.

Ikushima discloses a method of dispensing a constant amount of liquid from a nozzle. Ikushima discloses controlling the pressure applied to the liquid in the reservoir to the ejection valve to control the amount of adhesive dispensed from the nozzle (column 1, line 57 - column 2, line 65).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Swiggett by applying the coating to the optical wiring while passing the wiring through the nozzle as taught by Berndt in order to control the amount of adhesive applied to the optical fiber, and to modify the method of Swiggett by controlling the amount of pressure applied to the liquid being dispensed as taught by either one of Keyworth or Ikushima in order to dispense a constant amount of adhesive.

(Office Action, page 5, lines 12-19). However, the Examiner merely discusses what is written in the references and **jumps to a conclusion** that “one of ordinary skill in the art at the time of the invention would combine these teachings.” The Examiner has not given the reason why a person of ordinary skill in the art would combine or modify the teachings of the references.

If the rejection were to establish a *prima facie* case of obviousness, any invention of combination of known element would be *prima facie* obvious.

The Supreme Court in KSR noted that the **analysis supporting a rejection** under 35 U.S.C. 103 **has to be made explicit**. Regarding “Basic Requirements of a *Prima Facie* Case of Obviousness,” the MPEP explains as follows:

The Supreme Court in KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1395-97 (2007) identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in Graham. The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.

(MPEP 2143). Thus, the rejection has not established a *prima facie* case of obviousness.

More specifically, even if Swiggett discloses a method and apparatus for applying conductor wiring to a substrate, the conductor wire is coated with a **coating which is no-tacky** and non-blocking in its coated state but activatable to be an adhesive at the time the conductor is applied to the surface and to return to non-tacky state after the conductor is fixed to the surface. Therefore, there is no reason why a person having ordinary skill in the art would change the coated conductor wire to an uncoated optical fiber.

Berndt disclose an apparatus of coating an optical fiber with an “**UV curable polymer**” but not with an “adhesive material” as the Examiner alleged. Moreover, the UV curable polymer coating on the optical fiber is cured by an UV source. There is no reason why the apparatus of coating an optical fiber with an “UV curable polymer” is combined with Swiggett.

Keyworth discloses a method and apparatus for forming a waveguide on a substrate which comprises feeding “a curable **light guide forming liquid**” (not necessarily “a UV curable liquid” as the Examiner alleged) from a nozzle onto a substrate, relatively moving the nozzle and the substrate and curing the UV curable liquid (column 4, lines 1-21). There is no reason why this formation of a waveguide from “a curable light guide forming liquid” is combined with Swiggett’s method and apparatus for applying conductor wiring to a substrate.

Ikushima discloses a method of dispensing a constant amount of liquid from a nozzle. However, there is no reason why Ikushima’s method of dispensing a constant amount of liquid from a nozzle is combined with Swiggett’s method and apparatus for applying conductor wiring to a substrate.

Thus, the rejection has not established a prima facie case of obviousness. Also, the Examiner’s allegation is nothing but a typical example of an impermissible hindsight analysis.

Moreover, in Swiggett, a pressure wheel 280 for bringing the conductor into pressure contact with the board surface. (see column 8 line 57- column 9 line 1)

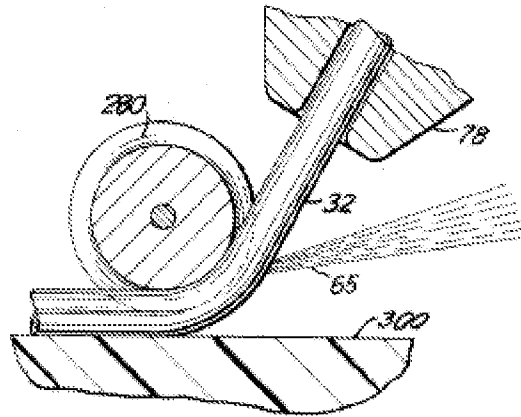


FIG. 19

Also, as previously explained regarding wiring head (835) of Hirayama at page 10 of Amendment dated March 4, 2009, the pre-applied layer of adhesive is wiped away by the pressure wheel 280.

Berndt discloses a technique for coating an optical fiber, but it does not disclose a technique for arranging the optical fiber on a substrate to form optical wiring. More specifically, Berndt discloses coating of the optical fiber with "acrylate-based resin" in column 2, lines 40-43. However, the disclosed coating is intended to form an acrylate-based resin film for the purpose of preventing cracks of the optical fiber, and it is not intended to apply an adhesive over the optical fiber. Hence the disclosed technique cannot be applied to the formation of the optical wiring.

For the reasons mentioned above, the present invention patentably distinguishes over Swiggett et al., Berndt, Keyworth et al. and Ikushima.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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